

**First Regular Session  
Seventy-fifth General Assembly  
STATE OF COLORADO**

**PREAMENDED**

*This Unofficial Version Includes Committee  
Amendments Not Yet Adopted on Second Reading*

LLS NO. 25-0591.01 Clare Haffner x6137

**SENATE BILL 25-127**

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**SENATE SPONSORSHIP**

**Simpson and Roberts,**

**HOUSE SPONSORSHIP**

**(None),**

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**Senate Committees**

Transportation & Energy

**House Committees**

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**A BILL FOR AN ACT**

101      **CONCERNING MEASURES TO OPTIMIZE COLORADO'S ELECTRIC**  
102      **TRANSMISSION SYSTEM.**

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**Bill Summary**

*(Note: This summary applies to this bill as introduced and does not reflect any amendments that may be subsequently adopted. If this bill passes third reading in the house of introduction, a bill summary that applies to the reengrossed version of this bill will be available at <http://leg.colorado.gov>.)*

Current law requires the Colorado electric transmission authority (authority) to conduct a study on the need for expanded transmission capacity in the state and prepare a final report of the study on or before January 31, 2025. **Section 2** of the bill authorizes the authority to conduct the study on a recurring basis and requires the authority to present a statewide transmission plan, based on the results of the study, to the

Shading denotes HOUSE amendment. Double underlining denotes SENATE amendment.  
Capital letters or bold & italic numbers indicate new material to be added to existing law.  
Dashes through the words or numbers indicate deletions from existing law.

Colorado public utilities commission (commission) and the legislature every 3 years, beginning on or before September 1, 2027.

**Section 2** requires the authority to consider advanced transmission technologies in the study and identify certain projects that use advanced transmission technologies. "Advanced transmission technologies" is defined in **section 1** as hardware or software technologies that increase the capacity, efficiency, reliability, or resiliency of an existing or new transmission facility.

**Section 3** designates the authority as a statewide transmission coordinator. Among other duties, the authority is required to facilitate coordinated statewide planning; engage with regional and interregional planning processes; and establish an expert advisory panel to review and provide feedback on model inputs, assumptions, and approaches.

Under current law, an electric utility must submit an electric resource plan to the commission for approval. **Sections 4 and 5** require an electric utility to:

- Include in the electric resource plan a transmission plan that identifies certain transmission resources and projects;
- Incorporate in the electric resource plan an evaluation of advanced transmission technologies or submit to the commission an explanation of why advanced transmission technologies are not included in the electric resource plan; and
- Provide model inputs and assumptions and other system information or methodology consultation necessary to support the authority in acting as a statewide transmission coordinator.

**Section 4** allows the commission to design incentives for a retail electric utility that utilizes advanced transmission technologies.

**Section 6** requires an electric utility to consider advanced transmission technologies in the electric utility's 10-year transmission plan.

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*Be it enacted by the General Assembly of the State of Colorado:*

**SECTION 1. Short title.** The short title of this act is the "Colorado Grid Optimization Act".

**SECTION 2.** In Colorado Revised Statutes, 40-2-125.5, **add (5.5)** and **(5.7)** as follows:

**40-2-125.5. Carbon dioxide emission reductions - goal to eliminate by 2050 - legislative declaration - interim targets -**

1 submission and approval of plans - definitions - cost recovery -  
2 reports - rules. (5.5) (a) (I) EXCEPT AS PROVIDED IN SUBSECTION  
3 (5.5)(a)(II) OF THIS SECTION, ON AND AFTER SEPTEMBER 1, 2025, A  
4 QUALIFYING RETAIL UTILITY'S ELECTRIC RESOURCE PLAN MUST INCLUDE  
5 AN EVALUATION OF ADVANCED TRANSMISSION TECHNOLOGIES. THE  
6 EVALUATION MUST INCLUDE:

7 (A) A TECHNICAL FEASIBILITY ASSESSMENT;  
8 (B) A COST-EFFECTIVENESS ANALYSIS;  
9 (C) A BASE MODELING SCENARIO AND A MODELING SCENARIO  
10 THAT INCORPORATES ADVANCED TRANSMISSION TECHNOLOGIES THAT MAY  
11 INCREASE SYSTEM CAPACITY, INCREASE CAPACITY TO CONNECT TO NEW  
12 RENEWABLE ENERGY AND ZERO-CARBON RESOURCES, AND LOWER COSTS;  
13 AND

14 (D) AN INVENTORY OF THE UTILITY'S EXISTING AND PLANNED  
15 ADVANCED TRANSMISSION TECHNOLOGIES.

16 (II) IF A QUALIFYING RETAIL UTILITY DOES NOT INCORPORATE AN  
17 EVALUATION OF ADVANCED TRANSMISSION TECHNOLOGIES IN ITS  
18 ELECTRIC RESOURCE PLAN, THE QUALIFYING RETAIL UTILITY SHALL  
19 SUBMIT A DETAILED EXPLANATION OF WHY AN EVALUATION WAS NOT  
20 INCORPORATED, WHICH EXPLANATION MUST INCLUDE RELEVANT  
21 ANALYSES DEMONSTRATING WHY ADVANCED TRANSMISSION  
22 TECHNOLOGIES WERE NOT FOUND TO OFFER A MORE COST-EFFECTIVE  
23 STRATEGY, WHETHER IN COMBINATION WITH OR INSTEAD OF OTHER  
24 CAPITAL INVESTMENTS, TO ACHIEVE ONE OR MORE OF THE FOLLOWING:

25 (A) AN INCREASE IN TRANSMISSION SYSTEM CAPACITY,  
26 EFFICIENCY, RELIABILITY, OR RESILIENCY;  
27 (B) A REDUCTION OF TRANSMISSION SYSTEM CONGESTION;

1           (C) A REDUCTION OF CURTAILMENT OF RENEWABLE AND  
2           ZERO-CARBON RESOURCES;

3           (D) A REDUCTION OF THE RISK OF IGNITING WILDFIRES; AND

4           (E) AN INCREASE IN CAPACITY TO CONNECT NEW RENEWABLE  
5           ENERGY AND ZERO-CARBON RESOURCES.

6           (b) AS NEEDED, THE COMMISSION MAY CONSULT WITH THE  
7           COLORADO ELECTRIC TRANSMISSION AUTHORITY, SUBJECT TO AN  
8           INTERGOVERNMENTAL AGREEMENT, TO EVALUATE THE PLANS SUBMITTED  
9           PURSUANT TO THIS SUBSECTION (5.5) AND TO DESIGN INCENTIVES  
10          PURSUANT TO SUBSECTION (5.7) OF THIS SECTION.

11          (c) AS USED IN THIS SUBSECTION (5.5) AND SUBSECTION (5.7) OF  
12          THIS SECTION:

13          (I) "ADVANCED CONDUCTOR" MEANS A CONDUCTOR THAT HAS A  
14          DIRECT CURRENT ELECTRICAL RESISTANCE THAT IS AT LEAST TEN PERCENT  
15          LOWER THAN EXISTING CONDUCTORS OF A SIMILAR DIAMETER ON THE  
16          ELECTRIC TRANSMISSION SYSTEM AND THAT INCREASES CAPACITY BY AT  
17          LEAST SEVENTY-FIVE PERCENT ON THE SYSTEM.

18          (II) "ADVANCED TRANSMISSION TECHNOLOGIES" MEANS  
19          HARDWARE OR SOFTWARE TECHNOLOGIES THAT INCREASE THE CAPACITY,  
20          EFFICIENCY, RELIABILITY, OR RESILIENCY OF AN EXISTING OR A NEW  
21          TRANSMISSION FACILITY, INCLUDING:

22               (A) ADVANCED CONDUCTORS;

23               (B) GRID-ENHANCING TECHNOLOGIES; AND

24               (C) OTHER TECHNOLOGY AS DETERMINED BY THE COMMISSION.

25          (III) "GRID-ENHANCING TECHNOLOGY" MEANS A HARDWARE OR A  
26          SOFTWARE TECHNOLOGY THAT REDUCES CONGESTION OR ENHANCES THE  
27          FLEXIBILITY OF ELECTRIC TRANSMISSION AND DISTRIBUTION SYSTEMS BY

1 INCREASING THE CAPACITY OF A TRANSMISSION OR DISTRIBUTION LINE OR  
2 REROUTING ELECTRICITY FROM OVERLOADED LINES TO UNCONGESTED  
3 LINES, WHILE MAINTAINING INDUSTRY SAFETY STANDARDS.

4 "GRID-ENHANCING TECHNOLOGY" INCLUDES:

- 5 (A) DYNAMIC LINE RATINGS;
- 6 (B) ADVANCED POWER FLOW CONTROLLERS;
- 7 (C) TOPOLOGY OPTIMIZATION;
- 8 (D) ENERGY STORAGE AS A TRANSMISSION ASSET; AND
- 9 (E) OTHER TECHNOLOGIES THAT INCREASE GRID RELIABILITY,  
10 FLEXIBILITY, AND CAPACITY.

11 **(5.7) Performance-based incentives for advanced transmission**  
12 **technologies.** (a) THE COMMISSION MAY EVALUATE NEW INCENTIVES FOR  
13 THE UTILIZATION OF ADVANCED TRANSMISSION TECHNOLOGIES THAT  
14 DEMONSTRATE AN ABILITY TO:

- 15 (I) PROVIDE ELECTRIC TRANSMISSION SYSTEM CONGESTION RELIEF;
- 16 (II) INTERCONNECT NEW LOAD OR GENERATION THAT THE  
17 QUALIFYING RETAIL UTILITY IS OTHERWISE UNABLE TO INTEGRATE ONTO  
18 THE GRID IN A TIMELY AND PRACTICABLE MANNER THROUGH EXISTING  
19 TRANSMISSION OR DISTRIBUTION INVESTMENTS;

20 (III) REDUCE WILDFIRE RISKS AND ENHANCE RESILIENCY TO  
21 WILDFIRE IMPACTS AND OTHER EXTREME CONDITIONS, HAZARDS, OR RISKS;  
22 OR

23 (IV) AVOID, REDUCE, OR DEFER THE ACTIVATION OF PUBLIC  
24 SAFETY POWER SHUT OFFS OR DE-ENERGIZATION EVENTS.

25 (b) IF A COMMISSION EVALUATION CONDUCTED PURSUANT TO  
26 SUBSECTION (5.7)(a) OF THIS SECTION CONCLUDES THAT INCENTIVES FOR  
27 THE UTILIZATION OF ADVANCED TRANSMISSION TECHNOLOGIES ARE IN THE

1 PUBLIC INTEREST, THE COMMISSION SHALL CONSIDER IMPLEMENTING SUCH  
2 INCENTIVES, INCLUDING:

3 (I) SHARED SAVINGS APPROACHES;

4 (II) PERFORMANCE INCENTIVE MECHANISMS; AND

5 (III) APPROPRIATE CONSUMER PROTECTIONS TO ENSURE ANY  
6 ADDITIONAL REVENUE OR COST RECOVERY AUTHORIZED AS A RESULT OF  
7 THE INCENTIVE IS PRUDENT.

8 **SECTION 3.** In Colorado Revised Statutes, 40-2-134, **amend** (2);  
9 **and add** (3) and (4) as follows:

10 **40-2-134. Wholesale electric cooperatives - electric resource**  
11 **planning - definitions - rules.** (2) (a) As used in this section, "wholesale  
12 electric cooperative" means any generation and transmission cooperative  
13 electric association that provides wholesale electric service directly to  
14 cooperative electric associations. EXCEPT AS PROVIDED IN SUBSECTION  
15 (2)(b) OF THIS SECTION, ON AND AFTER SEPTEMBER 1, 2025, AN  
16 INTEGRATED OR ELECTRIC RESOURCE PLAN THAT A WHOLESALE ELECTRIC  
17 COOPERATIVE SUBMITS TO THE COMMISSION MUST INCLUDE AN  
18 EVALUATION OF ADVANCED TRANSMISSION TECHNOLOGIES, INCLUDING:

19 (I) A TECHNICAL FEASIBILITY ASSESSMENT;

20 (II) A COST-EFFECTIVENESS ANALYSIS;

21 (III) A BASE MODELING SCENARIO AND A MODELING SCENARIO  
22 THAT INCORPORATES ADVANCED TRANSMISSION TECHNOLOGIES THAT MAY  
23 INCREASE SYSTEM CAPACITY, INCREASE CAPACITY TO CONNECT TO NEW  
24 RENEWABLE ENERGY AND ZERO-CARBON RESOURCES, AND LOWER COSTS;

25 AND

26 (IV) AN INVENTORY OF THE WHOLESALE ELECTRIC COOPERATIVE'S  
27 EXISTING AND PLANNED ADVANCED TRANSMISSION TECHNOLOGIES.

1           **(b) IF A WHOLESALE ELECTRIC COOPERATIVE DOES NOT**  
2           **INCORPORATE AN EVALUATION OF ADVANCED TRANSMISSION**  
3           **TECHNOLOGIES IN ITS INTEGRATED OR ELECTRIC RESOURCE PLAN, THE**  
4           **WHOLESALE ELECTRIC COOPERATIVE SHALL SUBMIT A DETAILED**  
5           **EXPLANATION OF WHY AN EVALUATION WAS NOT INCORPORATED, WHICH**  
6           **EXPLANATION MUST INCLUDE RELEVANT ANALYSES DEMONSTRATING WHY**  
7           **ADVANCED TRANSMISSION TECHNOLOGIES WERE NOT FOUND TO OFFER A**  
8           **MORE COST-EFFECTIVE STRATEGY, WHETHER IN COMBINATION WITH OR**  
9           **INSTEAD OF OTHER CAPITAL INVESTMENTS, TO ACHIEVE ONE OR MORE OF**  
10           **THE GOALS LISTED IN SECTION 40-2-125.5 (5.5)(a)(II).**

11           **(3) AS NEEDED, THE COMMISSION MAY CONSULT WITH THE**  
12           **COLORADO ELECTRIC TRANSMISSION AUTHORITY, SUBJECT TO AN**  
13           **INTERGOVERNMENTAL AGREEMENT, TO EVALUATE THE PLANS SUBMITTED**  
14           **PURSUANT TO THIS SECTION.**

15           **(4) AS USED IN THIS SECTION:**

16           **(a) "ADVANCED TRANSMISSION TECHNOLOGIES" HAS THE MEANING**  
17           **SET FORTH IN SECTION 40-2-125.5 (5.5)(c)(II).**

18           **(b) "WHOLESALE ELECTRIC COOPERATIVE" MEANS A GENERATION**  
19           **AND TRANSMISSION COOPERATIVE ELECTRIC ASSOCIATION THAT PROVIDES**  
20           **WHOLESALE ELECTRIC SERVICE DIRECTLY TO COOPERATIVE ELECTRIC**  
21           **ASSOCIATIONS.**

22           **SECTION 4. In Colorado Revised Statutes, 40-2-126, amend (6)**  
23           **as follows:**

24           **40-2-126. Transmission facilities - biennial review - energy**  
25           **resource zones - definitions - plans - approval - cost recovery -**  
26           **powerline trail consideration. (6) The commission shall amend its rules**  
27           **requiring the filing of ten-year transmission plans by utilities to also**

1 require utilities to:

2 (a) Consider and address plans for the construction of new

3 powerline trails in coordination with applicable local governments in each

4 two-year update to a ten-year transmission plan; and

5 (b) Demonstrate compliance with section 33-45-103 (2);

6 (c) CONSIDER ADVANCED TRANSMISSION TECHNOLOGIES, AS

7 DEFINED IN SECTION 40-2-125.5 (5.5)(c)(II), IN EACH TEN-YEAR

8 TRANSMISSION PLAN;

9 (d) ALIGN EACH TEN-YEAR TRANSMISSION PLAN WITH THE

10 UTILITY'S ELECTRIC RESOURCE PLAN AND CLEAN ENERGY PLAN; AND

11 (e) IDENTIFY STRATEGIES TO REDUCE THE CAPITAL AND FINANCING

12 COSTS FOR PROJECTS THAT THE UTILITY IDENTIFIES IN A TEN-YEAR

13 TRANSMISSION PLAN, INCLUDING BY USING THE PUBLIC FINANCING

14 AUTHORITY OF THE COLORADO ELECTRIC TRANSMISSION AUTHORITY.

15 **SECTION 5.** In Colorado Revised Statutes, 40-1-102, **amend**

16 (1.5); and **add** (1.7) as follows:

17 **40-1-102. Definitions.** As used in articles 1 to 7 of this title 40,

18 unless the context otherwise requires:

19 (1.5) "Commission" means the public utilities commission of the

20 state of Colorado "COLORADO ELECTRIC TRANSMISSION AUTHORITY"

21 MEANS THE COLORADO ELECTRIC TRANSMISSION AUTHORITY CREATED IN

22 SECTION 40-42-103 (1).

23 (1.7) "COMMISSION" MEANS THE PUBLIC UTILITIES COMMISSION OF

24 THE STATE OF COLORADO.

25 **SECTION 6.** In Colorado Revised Statutes, 40-42-103, **amend**

26 (2)(a) introductory portion, (2)(a)(III), and (2)(a)(IV); and **add** (2)(a)(V)

27 as follows:

1           **40-42-103. Authority - creation - board - open meetings and**  
2           **open records.** (2) (a) The powers of the authority are vested in a board  
3           of directors, which consists of the following ~~nine~~ TEN members:  
4           (III) Three members appointed by the speaker of the house of  
5           representatives; and  
6           (IV) Three members appointed by the president of the senate; AND  
7           (V) THE DIRECTOR OF THE COMMISSION OR THE DIRECTOR'S  
8           DESIGNEE, WHO SHALL SERVE IN A NONVOTING ROLE.  
9           **SECTION 7. Act subject to petition - effective date.** This act  
10          takes effect at 12:01 a.m. on the day following the expiration of the  
11          ninety-day period after final adjournment of the general assembly; except  
12          that, if a referendum petition is filed pursuant to section 1 (3) of article V  
13          of the state constitution against this act or an item, section, or part of this  
14          act within such period, then the act, item, section, or part will not take  
15          effect unless approved by the people at the general election to be held in  
16          November 2026 and, in such case, will take effect on the date of the  
17          official declaration of the vote thereon by the governor.